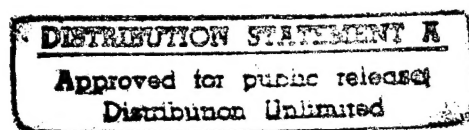


NAVAL WAR COLLEGE  
Newport, R.I.

**EAT YOUR OPERATIONAL ART, YOUNG MAN!**

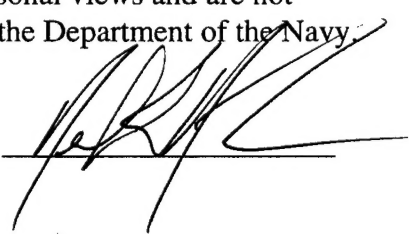


by

Neil L. Nickerson  
Lieutenant Commander, USCG

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Joint Military Operations Department.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: 

12 February 1996

Paper directed by  
David Watson, Captain, USN  
Chairman, Joint Military Operations Department

19960501 239

DTIC QUALITY INSPECTED 1

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority: N/A			
3. Declassification/Downgrading Schedule: N/A			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol: 1 C		7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207	
8. Title (Include Security Classification): EAT YOUR OPERATIONAL ART, YOUNG MAN.(U)			
9. Personal Authors: Neil L. Nickerson, LCDR, USCG			
10. Type of Report: FINAL		11. Date of Report: 12 Feb 96	
12. Page Count: 16 (3296 words) / 6			
13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: Operational art, definition of..., military art, military art trilogy, doctrine, levels of war.			
15. Abstract: For the newly initiated, the subject of operational art can be hard to swallow. This is because the official definitions are ambiguous and the general usage of the term is often erroneous. These problems can lead to such a misunderstanding of the concept that it is ignored, such as in published Navy doctrine. This paper attempts to refine the definition/concept of operational art and serve it up as an enticing dish for any Naval Officer.			
16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users
17. Abstract Security Classification: UNCLASSIFIED			

## EAT YOUR OPERATIONAL ART, YOUNG MAN

The first time I looked at my serving of operational art, I knew that I wasn't going to like it. It was green and lumpy, and filled in the spot between my T-bone strategy, and mashed tactics and gravy. I had eaten strategy and tactics for years and always looked forward to a good dinner, but what was this on my plate now? I was told that it would be good for me (of course), and that I needed it for a balanced diet. If I didn't eat it, other officers who had eaten theirs would be stronger and smarter than me. I stuck my fork in it and saw that it wasn't too slimy. I took a bite and found the taste wasn't so bad and as I chewed it, I began to think that it was pretty good. But then when I tried to swallow it, I found that it wouldn't go down right. As I looked through the rest, I found more things that just weren't quite right. I decided that this would be a great vegetable, if it was only cooked and cleaned right. As I did more research on the subject, I found some great recipes for serving operational art, but very little that accurately described it, or more importantly, how to grow it.

## INTRODUCTION

While a great deal has been published in the last several years on operational art in general, nothing has been published specifically and clearly defining Naval Operational Art. In fact, there is no recognition in Navy Doctrine of operational art.<sup>1</sup> Many articles have been written to illustrate the Navy's role in operational art, primarily in amphibious and/or littoral operations, but the fact remains that operational art is yet to be an officially sanctioned concept in the Navy. While the reasons for this omission may be many, the

---

<sup>1</sup> Naval Doctrine Publication (NDP) 1, *Naval Warfare*, lists doctrine as the link between strategy and tactics. Naval Warfare Publication (NWP) 3 (Rev. E), *Naval Terminology* does not include nor define the operational level of war or operational art. Department of the Navy, Washington, D.C., 28 March 1994.

most probable one is misunderstanding. Misunderstanding of operational art, with a resulting lack of appreciation for its significance, is easy to see if all the literature on the subject is examined critically. Most articles on operational art actually focus on joint operations rather than definitions. The few that propose to define operational art, usually skip over the definition entirely, and proceed with the application of the principles of war, definitions of theaters, or other elements or functions of operational art.<sup>2</sup> Only a very few have undertaken a serious, academic attempt at definition. And while these few, excellent articles bring about the most important points of operational art, it has not seemed to reduce the overall misunderstanding of the term, with the result that it is often misused. With all the misunderstanding, it is not surprising that the Navy would be hesitant to adopt such a difficult concept. However, history has proven the necessity of a method of thinking/planning/fighting to link strategy with tactics. This link is operational art.

## THE PROBLEM

"The last thing that an explorer arrives at is a complete map that will cover the whole ground he has traveled, but for those that follow, his map is the first thing with which they will begin. So it is with strategy...It is for this reason that in the study of war we must get our theory clear before we can venture in search of practical conclusions."<sup>3</sup> (author's emphasis)

It may be said that an academic, precise definition is unnecessary as long as the point gets across. However, a critical evaluation of all the articles on operational art shows that the point is not getting across. People still think that operational art is: anything that is done at the operational level of war, or joint operations, or doctrine as pointed out in

---

<sup>2</sup> Clayton R. Newell, LtCol, "What is Operational Art?", *Military Review*, Sep '90, p2.

<sup>3</sup> Sir Julian Corbett, 1911, quoted in NDP 1- *Naval Warfare*.

NWP-1.<sup>4</sup> Since this confusion appears so widespread, then we need to return to the definition for clarity and accuracy, 'get our theory clear, and then we can look for the practical conclusions.

The army first defined the term operational art in the United States in Field Manual (FM) 100-5 Operations. It was essentially the definition adopted by the Joint Chiefs of Staff in Joint Pub 1-02 with minor alterations. Operational art is defined as "the employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of strategies, campaigns, major operations and battles." This definition appears to be primarily interested in including as many subjects as possible to describe what operational art looks like, rather than clearly conveying the concept. And that is the true difficulty. Operational art is a concept, a focus, a way of thinking<sup>5</sup> rather than an activity. This definition, more than any other reason, perpetuates the belief that operational art is synonymous with the operational level of war. This definition accurately describes the activities or results of operational art, but does not serve as a learning tool.<sup>6</sup> Someone who understands operational art can trace the truth through this definition, but it is obscure to the newcomer. The fact that the definition is recognized by the authors as obscure is confirmed by the evidence that neither in Joint Pub 1-02 nor FM 100-5 was it deemed suitable to stand on its own as were the definitions for strategy and tactics. In both publications, the definition was immediately followed by an explanation.

---

<sup>4</sup> Milan N. Vego, "Notes from a lecture for OPS-5, Operational Art", 16 November 1995.

<sup>5</sup> John F. Meehan, III, "The Operational Trilogy", *Parameters*, Autumn '86, p13. This definition also implies that "any deployment of forces in a theater to attain strategic goals is operational art if it manifests itself in major operations...Yet such operations may be floundering from battle to battle." William S. Lind, "The Operational Art", *Marine Corps Gazette*, APR '88, p45.

<sup>6</sup> Scott A. Marcy, "Operational Art: Getting Started", *Military Review*, Sep '90, p106.

It is not only in the definition, but in the usage throughout service doctrines, that the term operational art is referred to more as an activity or tool, rather than a concept. For example, "The commander employ's operational art...in developing campaigns, etc..."<sup>7</sup> or "Operational art helps commanders use resources efficiently..."<sup>8</sup>. While these statements are true in a sense, it is an odd and somewhat skewed way to refer to method of thinking. The terms strategy and tactics are never used so cursorily. It doesn't explain anything to say that the National Command Authorities (NCA) use strategy to fight a war, or that tactics help a battle group commander defeat an opposing fleet. It would never occur to anyone to say something so elementary, yet operational art is used throughout doctrine in this manner. This usage of the term for its own sake, instead of the proper principles, not only misleads the reader as to the true meaning of operational art, but adds a nebulous connotation which reeks of buzzword. And it is not only in the usage, but the explanations following the definition itself use ambiguous language. Joint Pub 1-02 added, "Operational Art translates the joint force commander's strategy into operational design and ultimately, tactical action, by integrating the key activities of all levels of war." FM 100-5 added, "In war, operational art determines when, where, and for what purpose major forces will fight over time." Once again, these are true statements - if you already have a good understanding of operational art. However, for the newcomer who is learning the concept, these explanations are not discernible from the functions of operational art, or the principles of war. In fact, it only sounds like good management principles are needed if design, coordination, and integration are the key ingredients. And those terms are the ones that are emphasized throughout the official definitions. Stripped of all its pretensions, operational art is a matter of perspective.<sup>9</sup> It is the focus of linking

---

<sup>7</sup> Joint Pub 3-0, *Doctrine for Joint Operations*, p III-9.

<sup>8</sup> Joint Pub 3-0, Pp II-22.

<sup>9</sup> John F. Meehan, III, "The Operational Trilogy", *Parameters*, Autumn '86, p13.

tactical actions to strategic objectives. Anything else is activity to support that focus, or to translate that focus into reality. Currently, that impression is not effectively transmitted through service or joint doctrines.

Also, because operational art is a new and unfamiliar concept, a lot of attention is devoted to explaining it, while relatively little space is devoted to discussing strategy and tactics.<sup>10</sup> The importance of operational art is stressed from the strategic-operational level of war to the operational-tactical level without the corresponding influence of either strategy or tactics. This generous attention distorts its importance within the military art trilogy and also implies that it is "all encompassing." This provides evidence that there is confusion between the concept of operational art and the operational level of war.

It has been pointed out that there is extensive confusion between operational art and joint operations.<sup>11</sup> Not only is the definition of operational art found in a joint publication, but is taught at joint schools, usually carried out at the theater level by a joint commander, using joint forces. This is where an immature understanding of the concept can confuse joint operations, which are often tactical, with operational art.

Since operational art is conceptual, it is also confused with doctrine. As mentioned earlier, NDP-1 lists doctrine as the bridge between strategy and tactics. However, doctrine has as many definitions as operational art.<sup>12</sup> That's because doctrine is "whatever

---

<sup>10</sup> Clayton R. Newell, LtCol, "What is Operational Art?", *Military Review*, Sep '90, p2.

<sup>11</sup> Milan N. Vego, "Notes from a lecture for OPS-5: Operational Art", Naval War College, Newport RI, 16 November 1995.

<sup>12</sup> NDP 1 *Naval Warfare* has the following to say about doctrine: the foundation upon which our tactics, techniques, and procedures are built; ...the starting point from which we develop solutions and options to address the specific warfighting demands and challenges we face in conduction operations other than war; Doctrine is conceptual-a shared way of thinking that is not directive; ...forms a bridge between the naval component of our nation's...strategy and our tactics...; ...guides our actions toward well

its issuing authority want it to be."<sup>13</sup> However, operational art is not so vague. It occupies a definite niche in the military art trilogy, and although its understanding may vary, its characteristics and focus do not. It exists to link tactical actions to strategic objectives. Doctrine, however, has a completely different purpose. Its purpose is to unify effort and prescribe or recommend actions, which could be at any level.

As can be seen, there are many contributions to the misunderstanding of operational art and the point that needs to be made is: as long as definitions are ambiguous, the usage will be incorrect, lack focus, or even worse-be disregarded as only a buzzword.<sup>14</sup>

Operational art will continue to be confused with all activities at the operational level, or jointness, or as evidenced in official Navy publications - doctrine. As Sir Julian Corbett points out in the opening quotation, the theory must be clear before practical conclusions can be gained.

## DEFINITION

Any definition of operational art should start with the three levels of war because it is in this context that it will stand out from strategy and tactics. It should also help show the difference between the concept of operational art, and its functions.

---

defined goals... Note that there is no single definition. Army Field Manual FM100-5 *Operations* defines doctrine as: "fundamental principles by which military forces guide their actions in support of national objectives. Doctrine is authoritative but requires judgement in application." This is the same definition that is used in Joint Pub 1-02.

<sup>13</sup> Wayne P. Hughes, "The Power in Doctrine", *Naval War College Review*, Summer 95, 14.

<sup>14</sup> "While the various descriptions of operational art are useful, absence of a clear definition may appear to give credence to the erroneous idea that operational art is something unreal or artificial, giving it the appearance of being forced between the more familiar and traditional terms of strategy and tactics." Clayton R. Newell, "What is Operational Art?", *Military Review*, Sep 90, 100.



The three levels of war are commonly agreed as the strategic, operational, and tactical levels. Even though the boundaries between the levels shift and are difficult to define, the dominant characteristics are not. The strategic level is concerned with setting objectives and bringing about the forces necessary to achieve those objectives. At the national level, these forces include all political, economic, military, and psychological forces. Military strategy is only one arm of national strategy. Military strategy is primarily concerned with setting military objectives that achieve the national objectives, and using the means available to achieve those goals. The distinguishing characteristics here are geography and function. The geography is global. The functions are: deciding and providing. Objectives are set and forces provided from a global perspective, based on worldwide commitments.

The operational level is where the means given (the forces) are coordinated to achieve the national/military objectives. The geographical characteristic is limited to a single theater. The functions are: deciding, assigning, and achieving. Objectives are determined to meet national military goals, forces are assigned based on capabilities, and responsibility is set for achieving those goals.

The tactical level actually achieves those objectives. The perspective here is local and specific, within reach of weapons and mobility. The primary function is of attainment.

In reality, of course, the levels are not always as simple. Theater objectives may coincide or interfere with other theaters, requiring a higher perspective. Forces might need to be shared. Operational objectives are also achieved with tactical actions thereby blurring the difference between tactical and operational actions, etc. The size of an operation may be so small that all activities are simultaneously operational and tactical.

The perspectives above are taken from the narrowest, simplest sense. The existing definitions for military strategy and tactics reflect this simple view.<sup>15</sup>

The definitions for strategy and tactics are very concise and do not try to list their functions. The definition for operational art should also be short and to the point. It should also not attempt to list the functions as they are not only common with strategy and tactics, but other activities as well. Even though the borders of the strategic and tactical levels of war cannot be defined, this has not affected the definitions of strategy and tactics. This blurring of levels of war should not be an excuse for blurring the definition of operational art.

Strategy, and tactics are defined as forms of military art. Currently, operational art is not. It is defined as an activity or function. The definition should be more similar to fall within a contextual hierarchy to add to its understanding.

A proposed definition could be - "the art and science of focusing military forces within a theater to achieve strategic objectives." It is short, clear, and limits the scope of employment to the appropriate command level, and has all the components it needs. It may not elaborate on everything that is required to actually conduct operational art, but then - neither do the definitions for strategy and tactics. For example, the activities of "design, organization, and integration" are included in 'art and science of focusing'. Webster's definition of art is "skill acquired by experience, study, or observation...an

---

<sup>15</sup> Military Strategy - The art and science of employing the armed forces of a nation to secure the objectives of national policy by the application of force or the threat of force. Tactics - 1. The employment of units in combat. 2. The ordered arrangement and maneuver of units in relation to each other and/or to the enemy in order to use their full potentialities. Joint Pub 1-02, *Dod Dictionary of Military and Associated Terms*, Washington, D.C.: U.S. Government Printing Office, 23 March 1994.

occupation requiring knowledge or skill...the conscious use of skill and creative imagination...the faculty of carrying out expertly what is planned or devised." Design, organization, integration, planning, sustaining, etc., are functions at the strategic level as well, not only within the domain of the Operational level commander. However, this is the impression given when the definitions of each military art are given next to each other. 'Focusing military forces within a theater' would necessarily include all major operations, campaigns, engagements, etc., so to repeat them is redundant. The use of 'focus' rather than 'employment' also gets more to the purpose of operational art, linking operations/tactics to strategy. If employment of military forces is stressed, it can lead to the impression that operational success is the end goal, rather than strategic success. The use of "operational objectives" such as in the Joint Pub definition, also contributes to the implication that operational success is satisfactory. Operational objectives are intermediate goals set by the commander. The ultimate goals are always to accomplish strategic requirements. Avoiding the use of 'major operations, campaigns, and engagements,' also keeps the definition free from other ambiguous or ill-defined terms.

### **OPERATIONAL ART: IN CONTEXT**

As I mentioned before, most articles stress operational art so much more than strategy or tactics, that its importance is distorted. This is understandable in an article which naturally concentrates most of its attention on the featured subject. But operational art doesn't exist outside of the three forms of military art, and this should be reflected. This distortion is also reflected in joint doctrine. It is understandable that a doctrine written to guide functions at the operational level would concentrate its attention on that level. However, the purpose of operational commands is to attain strategic objectives with the forces assigned. If the published guidance is focusing within itself, no one may be looking out the 'window' to see where the ship is headed. This lack of balance can lead to

the attitude that operational success is an end itself. However, as history has shown, operational success means nothing if it is not part of an effective or realistic strategy. There is also no operational success without tactical success. Therefore, it must be presented in context, not only for ease of understanding, but to avoid the repeat of historical mistakes that show the danger of this imbalance.

Perhaps the most telling example of this imbalance can be seen in the German armies in both world wars.<sup>16</sup> The German armies epitomized operational success. The staffs planned and carried out effective campaigns, often against superior forces. They exemplified the principles of war: mass, surprise, agility, initiative, maneuver, etc. Yet, in the end they could not overcome the strategically poor position of being one nation against many. Economic and political decisions at the strategic level strangled operational success. The same could be said for Japan in World War II. Their operational success could not carry them past their strategic limitations.

Looking at it from the other side however, sound operational concepts can reduce strategic disadvantages.<sup>17</sup> Both nations seriously threatened defeat upon much larger opponents. Yet, in the end, it is shown that operational success cannot overcome strategic handicaps.

Similarly, tactical success does not guarantee victory. This is exemplified by the United States experience in Vietnam which is especially clear from a North Vietnamese Colonel's remark to Harry G Summers in 1975 when told, "You never beat us on the battlefield." The North Vietnamese replied, "That may be so, but it is irrelevant." The

---

<sup>16</sup> Jeffrey Record, "Operational Brilliance, Strategic Incompetence: The Military Reformers and the German Model", *Parameters*, Autumn 1986, 2-8.

<sup>17</sup> Milan N. Vego, "Notes from lecture OPS-5", Naval War College, Newport, R.I.

realization that the accumulation of tactical victories did not lead to the desired goal is the main reason that operational art has become such a focus today.<sup>18</sup>

Ironically, the North Vietnamese situation brings out the illusion that strategic success can be realized without tactical or operational success. This, of course, can not be true, but shows that tactical success does not always happen on the battlefield.

There are many good historical examples that show the interrelationship between the levels of war, and the importance of each. These should always be included in descriptions of military art, not only for descriptive purposes, but to keep things in perspective. Maintaining the proper perspective is the important thing. If the proper perspective is not maintained, then it can become too easy to focus on operational (or tactical) success for its own sake, which is meaningless outside of the strategic context.

In the overall picture, strategy needs to be realistic, understanding what is possible with the national forces that are available. The operational level commander must be able to visualize what is needed to accomplish national objectives, transmit the needs to national authority for proper decision making, and assign forces and intermediate objectives in the most effective manner. The tactical commander must use the most effective means to achieve the assigned objectives, keeping the operational commander informed of requirements, problems, or alternatives that would better achieve those goals. Changes at any level would necessarily affect decisions at others. Such is the relationship.

---

<sup>18</sup> Harry G. Summers, *On Strategy, A critical Analysis of the Vietnam War*, Presidio Press: Novato, Calif., 1982, p1; and William S. Lind, "The Operational Art", *Marine Corps Gazette*, April 1988, p45.

## CONCLUSION

A widely read and accepted book on fleet tactics mentions operational art in the following manner. "Fleet tactics are similar to both *combined-arms tactics* and *grand tactics*, or *operational art*, a contemporary term I rarely find it necessary to use."<sup>19</sup> (Italics in the original) This probably sums up most attitudes about naval operational art and is indicative of the general misunderstanding of the concept in the Navy. This is not to say that operational art is unknown, or that the precepts are not used. The principles of operational art were "gamed" at the Naval War College prior to World War II, and today it is a major part of the curriculum.<sup>20</sup> Yet it remains absent from Navy doctrine. If the reason is misunderstanding, a better definition would go a long way towards clearing up this confusion. Also, more rigorous attention to keeping the term separate from its functions or characteristics would keep focus where it should be. Including them under the term operational art changes its meaning to operational level of war. When emphasis is desired on attacking centers of gravity, or synchronizing forces, then those terms should be used and developed rather than placing them under the umbrella of operational art. This is especially true since many of these principles are relevant throughout all levels of war. Operational art should also be kept in context. This not only aids in understanding but emphasizes the importance of balance. Operational success means nothing outside of the strategic plan.

As Sir Julian Corbett pointed out, "we must get our theory clear before we can venture in search of practical conclusions." It seems that we have not gotten our theory clear, and before we charge off in the wrong direction, this should be corrected.

---

<sup>19</sup> Wayne P. Hughes, Jr., *Fleet Tactics: Theory and Practice*, Naval Institute Press: Annapolis, Maryland, p10.

<sup>20</sup> *Joint Maritime Operations Syllabus 1995-1996*, Naval War College, Newport, R.I.

### Selected Bibliography

- Air Force Manual (AFM) 1-1, Vol I, *Basic Aerospace Doctrine*, Department of the Air Force, Washington, D.C., March 1992.
- Army Field Manual (FM) 100-5 *Operations*, Department of the Army, Washington, D.C., 14 June 1993.
- Brown, C.R., "The Principles of War", *U.S. Naval Institute Proceedings*, June 1949. 621-633.
- Fleet Marine Force Manual (FMFM) 1, *Warfighting*, Department of the Navy, Washington, D.C., 6 March 1989.
- Holder, L.D., "A New Day for Operational Art", *Army*, March 1985, 22-28.
- Hughes, Wayne P. Jr., *Fleet Tactics: Theory and Practice*, Naval Institute Press: Annapolis, Maryland, 1986.
- Hughes, Wayne P., Jr., "The Power of Doctrine", *Naval War College Review*, Summer 1995, 9-31.
- Joint Maritime Operations Syllabus 1995-1996*, Newport, R.I.: Naval War College, 13-44.
- Joint Pub 1-02, *Dod Dictionary of Military and Associated Terms*, Washington, D.C.: U.S. Government Printing Office, 23 March 1994.
- Joint Pub 3-0, *Doctrine for Joint Operations*. Washington, D.C.: U.S. Government Printing Office, 1 February 1995.
- Lind, William S., "The Operational Art", *Marine Corps Gazette*, 45-47.
- Meehan, John F., III, "The Operational Trilogy", *Parameters*, Autumn 1986, 9-18.
- Naval Doctrine Publication (NDP) 1, *Naval Warfare*, Department of the Navy, Washington, D.C., 28 March 1994.
- Naval Warfare Publication (NWP) 3 (Rev. E), *Naval Terminology*.
- Naval Warfare Publication (NWP) 11 (F), *Naval Operational Planning*
- Newell, Clayton R., "Exploring the Operational Perspective", *Parameters*, Autumn 1986, 19-25.

- Newell, Clayton R., "What is Operational Art", *Military Review*, September 1990, 2-16.
- Pierce, Terry C., "Operational Maneuver From the Sea", *U.S. Naval Proceedings*, August 1994, 30-34.
- Pierce, Terry C., "Taking Maneuver Warfare to Sea", *U.S. Naval Proceedings*, April 1995, 74-77.
- Pugh, Paul F., "Operational Art and Amphibious Warfare", *Marine Corps Gazette*, July 1991, 80-85.
- Record, Jeffrey, "Operational Brilliance, Strategic Incompetence: The Military Reformers and the German Model", *Parameters*, Autumn 1986, 2-8.
- Rubel, Robert C., "Gettysburg and Midway: Historical Parallels in Operational Command", *Naval War College Review*, Winter 1995, 96-110.
- Saint, Crosbie E., "CINC's View of Operational Art", *Military Review*, September 1990, 65-78.
- Schneider, James J., "The Loose Marble and the Origins of Operational Art", *Parameters*, March 1989, 85-99.
- Schneider, James J., "Theoretical Implications of Operational Art", *Military Review*, September 1990, 17-27.
- Summers, Harry G., *On Strategy, A Critical Analysis of the Vietnam War*, (Novato, CA: Presidio Press, 1982).
- Swain, Richard M., "Written History of Operational Art", *Military Review*, September 1990, 100-106.
- Toti, William J., "Sea-Air-Land Battle Doctrine", *U.S. Naval Proceedings*, September 1992, 71.
- Tritten, James J., "Anti-Carrier Warfare and Naval Operational Art", Monterey, Calif: Naval Postgraduate School, 1988.
- Vego, Milan N., "Naval Operational Art", unpublished paper, July 1995.
- Vego, Milan N., "Notes from lecture OPS-5", Naval War College, Newport, R.I., 16 November 1995.



*Webster's New Collegiate Dictionary*, Merriam-Webster, Springfield, Mass., 1977.